

Title (en)

MICROWAVE-ASSISTED APPARATUS, SYSTEM AND METHOD FOR DEPOSITION OF FILMS ON SUBSTRATES

Title (de)

MIKROWELLENUNTERSTÜTZTE VORRICHTUNG, SYSTEM UND VERFAHREN ZUR ABSCHIEDUNG VON FILMEN AUF SUBSTRATEN

Title (fr)

APPAREIL ASSISTÉ PAR MICRO-ONDES, SYSTÈME ET PROCÉDÉ DE DÉPÔT DE FILMS SUR SUBSTRATS

Publication

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Application

EP 20883017 A 20201102

Priority

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Abstract (en)

[origin: WO2021084561A1] The present invention provides an apparatus for the deposition of thin films on a substrate, including large substrates, held preferably face-down, in a cartridge containing a liquid solution with at least a chemical precursor which, upon being subject to a uniform microwave field transmitted through a microwave-transparent window, leads to the formation of a thin film on the substrate. The present invention also provides a system for launching microwaves and controlling the process for film deposition on the substrate. The present invention also provides a process for obtaining a film of uniform thickness and characteristics on a substrate or for incorporating controlled non-uniformity. The present invention also provides an apparatus and method for film deposition on a series of substrates in a continuous batch process.

IPC 8 full level

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Citation (search report)

- [I] WO 2010041278 A1 20100415 - INDIAN INST SCIENT [IN], et al
- [A] US 2011139773 A1 20110616 - FAGRELL MAGNUS [SE], et al
- [A] WO 2019129969 A1 20190704 - SAFRAN CERAM [FR], et al
- [A] US 5389197 A 19950214 - ISHIMARU YASUSHI [JP]
- [A] HAIYAN XU ET AL: "Rapid fabrication of luminescent Eu:YVO₄ films by microwave-assisted chemical solution deposition; Rapid fabrication of luminescent Eu:YVO₄ films by microwave-assisted chemical solution deposition", NANOTECHNOLOGY, INSTITUTE OF PHYSICS PUBLISHING, BRISTOL, GB, vol. 16, no. 1, 1 January 2005 (2005-01-01), pages 65 - 69, XP020090709, ISSN: 0957-4484, DOI: 10.1088/0957-4484/16/1/014
- See references of WO 2021084561A1

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